



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
NOVEMBER 5, 1996, 9:00 A.M.
CONSTRUCTION CONFERENCE ROOM**

Present:	T. A. Coleman J. J. Kanillopoolos (J. D. Culp) A. D. Clover (L. R. Brown) D. C. Spangenberg (S. E. Hohl)	C. Roberts C. J. Arnold W. C. Turner	P. F. Miller J. Steele (T. Fort) J. W. Reincke
Guest:	D. L. Coleman	G. M. Mayes	

OLD BUSINESS

1. Approval of the Minutes of the September 5, 1996, Meeting -T. A. Coleman

Minutes of the September 5, 1996, meeting were approved as written.

2. Status Report on Warranties: Bituminous Construction Projects or Concrete - P. F. Miller/W. C. Turner

The Construction and Design Divisions provided an update on ongoing activities regarding contract warranties. Both divisions will continue their efforts; Construction will meet with industry representatives to discuss requirements of specifications (special provisions) for overlays. Ed Winkler was requested to coordinate MDOT/industry committee activities regarding concrete and bituminous warranties, and present a status report at the December meeting.

3. Use of Lightweight Trailer Sign Support - J. J. Kanillopoolos

The 1996 Standard Specifications for Construction allow the use of trailers weight 350 pounds or less as portable sign supports. However, the FHWA had requested we eliminate this support from all federal-aid contracts. Recent meetings held with industry and FHWA representatives have lead to an agreeable position, which allows the use of lightweight trailer signs while testing is being conducted for a Montana design. They also require placement of these trailers out of the clear zone, when not in use.

ACTION: The Construction Division, coordinating with the Traffic and Safety Division, will write an information letter on use of lightweight trailer sign supports in the right-of-way.

4. **Interim Report on Development of a Five Year Plan on a Corridor Basis That Will Incorporate all Management Systems, With Recommendations for Funding Template(s) (See New Business, Item 1, of the August 2, 1996, Minutes) - C. J. Arnold**

A team is being formed to address issues related to use of the Management Systems and corridor emphasis to incorporate input from the various programs into the development of projects, so that interruptions to use of the facilities are minimized.

The team effort is to include Central Road Design and Bridge, Pavement Management System (PMS), Bridge Management System (BMS), District Project Development, Traffic and Safety programs, and Safety Management System (SMS), as well as FHWA. Ex official input will be required from other management systems, Maintenance field inspection, and preventive maintenance programs.

Initial membership will be as follows:

C. J. Arnold, Chair - Design Division

S. R. Kulkarni - Bridge Design

W. C. Turner - Road Design

S. Bower - PMS

R. Kelley - BMS

R. Safford - District 9, Proj. Dev.

D. Van Hine - District 6, Proj. Dev.
- FHWA

J. Kanillopoolos, SMS and Safety Programs

Ex Officio -

S. Jadun - Maintenance Bridge Inspection

L. Galehouse - Preventive Maintenance

T. Anderson - District 8, Maintenance Manager

5. **Ground In Rumble Strips, Information Only - W. C. Turner**

Four projects are underway where roadway shoulders are being retrofitted with rumble strips. Construction reported to the Design Recommendation Committee that the operation of grinding in rumble strips seemed to go well. Construction feels that if the ground in rumble strips were standard, cost would be significantly lower than the large variation in price we are presently experiencing. A number of issues are presently being worked on by the Maintenance Division, as well as the cooperative efforts by Traffic and Safety, and the Materials and Technology Divisions to refine the current pattern being used can be modified. An update on progress will be presented at the December meeting.

6. Traffic Control Devices for 1997 Construction Season and Speed Limits - J. J. Kanillopoolos

A. Traffic Control Devices for 1997 Construction Season

Several proposals were presented for consideration and approval regarding current practices in construction work zone areas. The following items were approved and the changes included in contracts by special provision; effective with the February 7, 1997, letting. A joint letter from the Traffic and Safety and Construction Divisions will allow these provisions for all on-going contracts, and those let before February 1997.

- I. Proposal for Type A, B and C LED Lights
 - A. Approve their continued use on all freeway and conventional road projects.
 - B. Incandescents will also be allowed, but intermixing of LEDs and incandescents on a project will not be permitted.
 - C. The Traffic and Safety Division will modify the existing interim special provision for LEDs, if necessary.
 - D. The Materials and Technology Division will prepare a qualified products list for Type A, B, and C lights, including both LED and incandescent light categories.
- II. Prismatic Sheeting
 - A. Allow its continued use for construction signs on all freeway projects.
 - 1. Recommend all sheeting on a project be of the same type, i.e. a freeway project calling for prismatic sheeting will also use this sheeting for all signs on associated ramps, crossroads and other surface streets.
 - 2. Type A lights will not be required on any signs using prismatic sheeting.
 - B. The Traffic and Safety Division will modify the existing special provision for prismatic sheeting.
 - C. Retain the requirement for engineering grade sheeting for non-freeway jobs. Allow flexibility for use of prismatic sheeting as a contractor option or when specified on higher impact, more complex projects (certain level ADTs and speeds of 90 kph or more) on these roadways.
- III. Solar-Powered Target Arrows
 - A. Allow their continued use on all freeway and conventional road projects as an alternate to diesel arrow boards.
NOTE: There is already a joint Construction and Materials and Technology instruction memorandum 1996-G, *Expanded Use of*

Solar-Assist Arrow Boards and LED Warning Lights, issued July 29, 1996.

- B. The Traffic and Safety Division will modify the existing special provision for solar-assisted arrow boards, if necessary.
 - C. The Materials and Technology Division will develop a qualified products list for solar-assisted arrow boards.
- IV. Drum Sheeting
- A. Begin conversion to high-intensity retroreflective sheeting on all plastic drums as a requirement on all freeway projects or non-freeway high impact, more complex projects. Implement a planned conversion for all projects by the year 2000. The drums shall have at least four horizontal, 150 mm wide stripes (two orange and two white) of the high-intensity sheeting. All the plastic drums on the existing qualified products list appear to be able to accept the proposed 150 mm wide stripes.
 - B. The Traffic and Safety Division will modify the existing special provision for use of this sheeting to override Standard Plan R-125A (VI-125).
 - C. The Materials and Technology Division will maintain the qualified products list for barrels.
- V. No Lights on Drums
- A. Continue to evaluate projects utilizing plastic drums stripped with high intensity sheeting (four, 150 mm wide, orange and white alternating), and no lights.
 - B. Provisions for cleaning drums, nighttime inspections, and certified work zone supervisors be developed and incorporated.
- VI. Vehicle Mounted Attenuator
- A. The Traffic and Safety Division will modify an existing special provision for vehicle mounted attenuators (VMA). The required VMA will be sized (70 kph and 100 kph crash rating) to be compatible with the actual posted speed in the work zone (i.e. will equal or exceed the posted speed).
 - B. At this time, no VMAs meet NCHRP 350 Level 3, 100 kph (62.7 mph) requirements. Attenuators are scheduled to be crash tested to see if they can pass Level 3 requirements in January 1997.
 - C. The Traffic and Safety Division is developing guidelines for use and application of VMAs in work zones.

ACTION: The proposed recommendations were approved as presented. The Traffic and Safety, Materials and Technology, and Construction Divisions are requested to coordinate their effort to accomplish the following:

- I. LED - The Traffic and Safety Division will modify the existing special provision. The Materials and Technology Division will prepare the qualified products list.
- II. Prismatic Sheeting - The Traffic and Safety Division will modify the existing special provision. The Materials and Technology Division will prepare the qualified products list.
- III. Solar-Powered Target Arrows - The Traffic and Safety Division will modify the existing special provision. The Materials and Technology Division will prepare the qualified products list.
- IV. Drum Sheeting - The Traffic and Safety Division will modify the existing special provision. The Materials and Technology Division will prepare the qualified products list.
- V. No Lights on Drums - The Construction Division, and Traffic and Safety Division will prepare needed special provisions and help develop criteria for the certified work zone supervisor.
- VI. Vehicle Mounted Attenuator - The Traffic and Safety Division will modify the special provision and prepare the application guideline.

B. Establishing Speed Limits for Work Zones

Fines are now double in work zones. In order to obtain driver compliance and insure tickets issued are upheld when challenged in court, the established speed limits must be realistic. National studies indicate speed reductions should not exceed 10 mph. If a lower speed is required, the speed limits should be stepped down in 10 mph increments.

Many believe worker safety is improved when low speed limits are posted. However, most motorists drive at a speed they feel is reasonable. If motorists do not believe the posted speed limit is reasonable, they usually do not comply and worker safety is compromised. Too often, speed limit signs are left in place when there is no reason to have reduced speeds. This adds to the motorists' disrespect of the posted speed limit.

The following resolutions were proposed:

- I. Set work zone speed limits no more than 10 mph below the existing speed limit of 65 mph prior to the work zone, except when extreme conditions warrant a lower speed.
- II. Whenever practical, provide positive barriers between the workers and maintained traffic.

- III. Reduce speed limits only at areas and times when work is actually occurring. This may be accomplished by use of flashing lights on signs, indicating speed limit is in effect.

It was recommended that the Traffic and Safety, Construction, and Maintenance Divisions, with district representation, provide a joint instructional memorandum to the districts on the need and method for setting realistic work zone speed limits.

ACTION: The EOC approved the proposed recommendation as presented. The Traffic and Safety Division will modify the Traffic and Safety Design notes to reflect this policy change.

7. **Superpave Implementation - D. Coleman**

An overview was presented of the needs to set up a statewide plan for implementing Superpave Bituminous Mixtures. The following proposal was presented for consideration and approval:

1996 Did one project, SPS-9, I-196, Grand Rapids
Used performance graded binders on several projects.

1997 Use performance graded binders on all projects.
Set up 18 project (2 per district) using Superpave designs.
Different Traffic Volumes
Different Type Fixes
What Information Should be on Design Plans
How Construction Practices are Affected
What In-Place Densities Should be Required
Proper QC/QA Procedures

Winter 1997/98 MDOT and industry meet to develop a plan for full implementation by the beginning of 1999 Construction Season. Including the final specification covering all bituminous mixtures and construction mixtures, binders, QC/QA and ride quality.

ACTION: The EOC approved the proposed Superpave implementation plan as presented.

NEW BUSINESS

No agenda items were presented.

(Signed Copy on File at M&T)

Calvin Roberts, Secretary
Engineering Operations Committee

Attachment

cc: EOC Members
District Engineers

R. A. Welke	R. J. Risser, Jr. (MCPA)	L. K. Heinig	T. Adams (MCA)
D. L. Coleman	A. C. Milo (MRBA)	G. H. Grove	R. D. Till
D. L. Smiley	J. Becsey (MAPA)	R. W. Muller	R. E. Nordlund
L. E. DeFrain	G. L. Mitchell	G. J. Bukoski	C. W. Whiteside
I. B. Patel	M. Newman (MAA)	J. Steele (FHWA)	K. Rothwell
S. Bower	M. Frierson	R. J. Lippert, Jr.	C. Libiran